DOCUMENT RESUME

ED 087 655 SO 006 845

AUTHOR Cameron, David R.; Hofferbert, Richard I.
TITLE The Impact of Federalism on Educational Spending: Patterns Within and Across Nations.
INSTITUTION International Political Science Association, Brussels (Belgium).
PUB DATE 73
NOTE 27p.; Prepared for delivery at the 9th World Congress of the International Political Science Association, Montreal, August 19-25, 1973

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS Centralization; Comparative Education; Decentralization; Educational Economics; *Educational Finance; *Federal Government; Federal State Relationship; *Financial Policy; *Fiscal Capacity; Foreign Relations; Government Role; Industrialization; International Organizations; Policy Formation; Political Science; Research; *Resource Allocations
IDENTIFIERS Europe; North Africa

ABSTRACT

Drawing on implications suggested by several recent studies in comparative urban research, the extent to which the structure of intergovernmental relations affects the allocations of public funds within a nation is examined. The focus is on educational policy and determining whether differing degrees of centralization affect the outcomes of the policy process. Five hypotheses were tested with nation-level data for 17 countries in Europe and North America and with subnational data for four federal and four nonfederal systems. A systematic difference was found between the federal and the non-federal systems in policy performance, with little indication that federal systems either equalize or redistribute the aggregate resources of society, perpetuating the regional disparities. While it seems true that the dominant role of the central government in a non-federal system may reduce the magnitude of intra-national variation of education spending, it is nevertheless evidenced that the aggregate allocation of funds to education relative to resource base is highest in the federal nations. Appendices present factor structures for dimensions of industrialization and commercialization for 16 nations, and factor structures for dimensions of industrialization and integration of four non-federal and four federal nations. (Author/KSM)

I. P. S. A.
A. I. S. P.

International Political Science Association
Association Internationale de Science Politique

IXth World Congress
MONTREAL
19-25 / VIII / 1973

Secretariat général : Rue des Champs Elysées 43 — B - 1050 Bruxelles - Belgique
Tél. : Bruxelles : 48.34.38

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ED 087655 SO 006 845

Nr I.4.14

No

Theme

POLITICS BETWEEN ECONOMY AND CULTURE
LA POLITIQUE ENTRE L'ECONOMIE ET LA CULTURE

I Stein ROKKAN

Commission

CENTRE VS. PERIPHERY : ECONOMIC, CULTURAL AND IDEOLOGICAL DIMENSIONS OF TERRITORIAL CONFLICT

I *John MEISEL*
Derek URWIN

Topic - Sujet

THE IMPACT FO FEDERALISM ON EDUCATIONAL SPENDING : PATTERNS WITHIN AND ACROSS NATIONS

David R. CAMERON
Richard I. HOFFERBERT
University of Michigan

Price - Prix : $ 1.00

ED 087655

THE IMPACT OF FEDERALISM ON EDUCATIONAL SPENDING: PATTERNS WITHIN AND ACROSS NATIONS

By

David R. Cameron

and

Richard I. Hofferbert

Center for Political Studies
The University of Michigan

Prepared for delivery at the IXth World Congress of the International Political Science Association, Montreal, August 19 - 25, 1973.

We wish to acknowledge the aid provided by the Center for Political Studies, University of Michigan, and the Inter-university Consortium for Political Research, which provided a portion of the socioeconomic data for several of the nations included in this analysis. We are also grateful to Stefanie H. Cameron for several important criticisms and suggestions for improvement of the manuscript.

Introduction

Does the structure of intergovernmental relations, which provides the framework of public policy making, relate systematically to the outputs of the policy process? Does it affect the direction or distribution of public policy? Are resources allocated differently between center and periphery in federal as compared to unitary systems? This paper examines the impact of the structure of intergovernmental relations on public policy in several advanced industrial nations. In particular, we seek to understand the impact of federalism on public educational spending.

Federalism, defined simply as a form of government which reserves certain specified or unspecified public policy responsibilities to subnational governments having relatively autonomous legislatures and political executives, represents a compromise between the need for national uniformity and the fact of internal diversity.[1] The decentralization of policy making characteristic of federal systems recognizes both the differences in sociopolitical composition of territorial jurisdictions and the right of these jurisdictions to use their resources in different ways. The nature of federal systems thus insures considerable variation in policy performance among subnational units. In fact, the opportunity for such variation is part of the inherent constitutional logic of this system of government. Without entering the philosophical debate over the propriety of federalism as a system of government, one notes the growing attraction of the principle of decentralization, if not federalism, in many advanced industrial nations such as Belgium, Italy, and France. It is of more than passing interest therefore to inquire about the distributional consequences of this system of government.

We have chosen to study educational policy because it lies at the crossroads of the economy and polity. In the processes which produce educational policy, one finds the interaction of conflicts involving race, religion, ethnicity, class, distribution of wealth, and differing levels of government. In no policy area has the conflict between advocates of centralized and decentralized policy making been more enduring than in this, the most important domestic policy arena for advanced industrial nations. As Rokkan has ably demonstrated, the conflicts between center and periphery were politicized in jurisdictional disputes over the control of education and constitute an enduring basis of cleavage in contemporary mass politics in these nations.[2]

Educational policy outcomes affect not only those social conflicts but also the pace and direction of social, economic, and cultural change. Educational policy structures the allocation of values within a society, not only for the immediate period but also for future generation. With scarce economic resources, educational decision makers must create policies which are multipurposive. They must address current and future manpower needs. They must address the problem of inequity between classes, races, and ethnic groups--even if the power to alter these inequities is minimal.[3]

Wherever support for education has become a major public responsibility there has been continuing experimentation and dispute over the central government's role. In fact, compared to other policies, the constitutional issue of responsibility of the various levels of government has been most evident in the arena of educational policy. Thus, for example, if one ignores the heated

but largely irrelevant disputes over whether educational spending accomplishes anything at all,[4] it is clear that the major debates over education in the United States involve the financial responsibilities of the various levels of government. And the major changes which have recently occurred or have been proposed for the future involve changes in the distribution of responsibility, primarily from the locality to the state.[5] The clear inference which emerges from these debates is that the manner in which financial responsibility is distributed across levels of government is important for the patterns of allocation within a territorial jurisdiction. It is this inference which we wish to examine, within and between several advanced industrial nations.

Previous Research Base

In the last decade the analysis of subnational politics has been transformed: it has become comparative, empirical, and policy-oriented. The watershed for comparative American state politics research was the publication of the Dawson and Robinson article on the social and political correlates of state and local expenditures for certain welfare policies.[6] This article suggested that (as was commonly believed) there were high correlations between inter-party competition and welfare policy, but that socioeconomic attributes such as wealth of the states were more closely related to the policy outcomes. The importance of the socioeconomic environment, relative to political variables, for a wide variety of public policy outputs was demonstrated by Dye, who suggested that political variables such as party competition and voter turnout had no systematic independent effect on state policy outputs. Instead, variables which measured the socioeconomic features of the states -- urbanization, personal income, industrialization, and median education -- seemed to emerge as the most important correlates of policy outputs.[7] Hofferbert reached similar conclusions in a study of the impact of political variables such as partisan control and malapportionment of state legislatures on a composite measure of states' "welfare orientation."[8]

As the technology and domain of inquiry expanded, however, the initial conclusions about the importance of socioeconomic variables, relative to political variables, were refined, elaborated, and in some cases, rejected. Hofferbert found, for example, that what had been commonly termed the "socioeconomic context of policy" was in fact composed of two distinct dimensions.[9] One of these, called "industrialization," measured variation across the states in the size of the secondary economic sector, as contrasted to the primary sector. The second dimension, called "cultural enrichment" and, later, "integration," measured variation in the extent of commercialization, affluence, and tertiary sector development across the states. These two dimensions were correlated with public policy, but in ways which varied across policy arenas. And when the multidimensional framework was applied to the various indicators of the political system and public policy, it was found that certain distinct clusters of public policy were as closely associated with political attributes as they were with the two dimensions of social structure. Thus, for example, a distinct dimension of policy which traced the variation across the states in welfare and education outputs correlated as highly with dimensions measuring the degree of electoral competition (r=.68) and governmental professionalism

(r=.39) as with industrialization (r=.37) and integration (r=.69).[11]

The suggestion that certain elements of the states' political structure were as important as the socioeconomic environment represented a change in emphasis from earlier research. These findings were in accord with others which reasserted the importance of political variables for public policy. For example, Walker found that certain political variables such as apportionment were important for explaining the propensity of American states to innovate policy programs.[12] Similarly, Cowart found that indicators of the electoral process and, more importantly, of previous policy norms were more closely associated with Poverty Program expenditures than were various indicators of socioeconomic environment.[13] And Sharkansky has found that policy outputs, and changes in these outputs over time, are much more closely associated with prior policy outputs and the routines of decision-making such as incrementalism than with either socioeconomic or mass political variables.[14]

The importance for public policy of certain political variables, particularly those identifying the significant features of the context of decision-making, has also been recognized in the field of comparative urban research. Of particular interest to us is the suggestion that the relation between levels of government is perhaps the most critical of all the political variables for explaining urban policy. Kesselman has argued, for example, that urban policy makers are not autonomous. Instead they operate within a constrained system of interaction with officials at other levels of government. More importantly, this system of interaction is defined to a large extent by the manner in which financial responsibility is allocated among the levels of government. This in turn suggests that the structure of intergovernmental relations may provide the key to explaining why urban policy varies within and across nations.[15] Anton has found that in spite of Sweden's strong tradition of local government, the making of housing policy in Stockholm was not autonomous or independent from national policy but was, instead, closely integrated and coordinated with national policy, in large part because of the considerable financial responsibility carried by the central government.[16] The conclusion that policy outputs at one level of government are critically influenced by the structure of relations among several levels of government, and that as a result the variation in urban policy outputs across several nations is a result of the differences among the nations in the structure of intergovernmental relations, has been stated most forcefully by Jacob, Teune, and their colleagues. In their study of the bases of community activeness in America, India, Yugoslavia, and Poland, the authors drew the unavoidable conclusion that the explanation of activeness was system-specific rather than universal, largely because national policies dominated the character of the explanatory variables. That is, national policies, such as the allocation of most funding responsibility for education to American localities or the emphasis placed on the development of the new western territories by the Polish government, determined the relationships within each nation among the social, political, and policy attributes of the local level.[17]

Hypotheses

The suggestion derived from recent comparative urban policy research that the process and outputs of public policy are shaped in significant ways by the structure of intergovernmental relations is a provocative point of departure for cross-national policy research. It suggests that patterns of allocation of public funds among subnational units may be critically affected by the national-subnational relationship. More importantly, it provides a means of accounting for differences between nations in patterns of allocation at the subnational level. In other words, the structure of intergovernmental relations may be a systemic variable which, by accounting for the differences in within-nation relationships, may provide the basis for a general explanation of public policy performance.[18]

Nowhere would the impact of the structure of intergovernmental relations be more apparent than in the comparison of educational policy performance in federal and non-federal systems. Educational policy in federal systems has, perhaps more than any other policy, been the preserve of subnational and local governments, particularly for education below the university level. In contrast to the implied (and occasionally explicit) constitutional obstacles to a dominant government role in education in federal systems, the growth in public policy authority of the national government in non-federal systems has more often than not been fought out in the arena of education. Thus while subnational and local dominance characterizes education policy in federal systems, national government dominance characterizes non-federal educational policy.

Since the structure of intergovernmental relations differs so markedly between federal and non-federal systems, we hypothesize that the patterns of allocation of public funds for education differ between the two types of systems. This is the fundamental hypothesis underlying our analysis. We seek confirmation by testing a series of derivative hypotheses about the nature of the difference between federal and non-federal systems' educational policy performance.

As one listens to the current debates on educational finance in the United States, one often hears recommendations from such individuals as the 1972 Democratic Presidential candidate and the Commissioner of the U.S. Office of Education, as well as groups such as the National Education Association, that the national government's financial responsibility for public education be drastically increased to the neighborhood of 33 per cent. There is a widespread view, and one by no means limited to the United States, that national government responsibility for education is desirable because it presumably results in patterns of allocation which are preferable to those which occur when funding responsibility is heavily decentralized. We will examine this supposition by analyzing several of the most important aspects of the allocation of education funds, and thereby answer the question: What difference does federalism make?

One of the most important aspects of educational finance which might be expected to differ in federal and non-federal systems involves the aggregate size of funds allocated to this policy, relative to the resource base, in the nation taken as a whole. One might plausibly expect that a relatively large

central government role in funding would reflect the existence of a broad national consensus on the desirability of giving adequate support for a policy, rather than leaving it to the erratic support of a myriad of local and subnational decision-makers. Or, if one is unwilling to accept the notion that a broad national consensus might exist, one might still hypothesize that the need to maintain national integration and the maintenance of national cohesion -- the very needs which prompted the assertion of central government control in the nineteenth century -- might result in non-federal systems outspending, relative to their resource bases, federal systems. On either basis we would then hypothesize as follows:

> The greater the central government's financial responsibility for education, the greater the funds expended on education in the total system, relative to the resource base of the nation.

Although the question of the impact of federal/non-federal structures of government on the educational spending of the whole nation is interesting, this is only one aspect of the allocation problem. An equally important aspect, which lies at the heart of the centralization/decentralization debate, involves the patterns of allocation within nations. In particular, the issues at the heart of the debate are concerned with variation in the level of spending across subnational (or local) jurisdictions. These issues rest upon an assessment of the degree of redistribution of resources from wealthy to poor areas, the degree of equalization across all areas, and the degree to which educational spending negates or, conversely, is constrained by wealth. This being the case, the critical test of the significance of the structure of intergovernmental relations and division of financial responsibilities may lie in the patterns of variation <u>within</u> federal and non-federal systems.

As we previously noted, the nature of a federal system insures considerable variation in policy performance among the subnational units. Not only are there multiple layers of decision makers and a proliferation of decision points in a federal system, but decision makers at the subnational and local levels have considerably more autonomy than would their cognates in non-federal systems. The effect of multiple levels and units of decision making, each characterized by a degree of autonomy, may be the perpetuation of policy diversity. That is, the absence of a single dominant decision point may allow so much variation in the criteria by which funds are allocated that the cumulative effect of policy in a federal system has little, if any, impact on redistribution, equalization, etc. This, in fact, has been the argument of those who have advocated the takeover by states of financial responsibility from the localities. State-level dominance will enable the schools to escape the situation whereby expenditures are highly constrained by the wealth of local districts. And, we might note, this applies with equal force to the disparities between the states. Not surprisingly, this line of argument has been used by advocates of a greatly expanded federal role.

Several hypotheses can be tested to determine the impact of federalism non-federalism on internal variations in educational spending. Given diversity of decision points and the probability that the cumulative effect of policy is perpetuation of diversity of the social structural resource base in federal

systems we hypothesize that:

> The greater the central government's financial responsibility for education, the less the relative variation in educational expenditures across the nation's subnational jurisdictions.

The structure of intergovernmental relations, as manifested in the division of responsibility for financing education between levels of government, may affect not only the sheer magnitude of intra-national variation in spending, but also the bases of variation. That is, the existence of multiple points of decision in a federal system may have an effect at the subnational level comparable to that at the local level, i.e. that variations in spending closely reflect variations in resource base. This indeed is suggested by the strong positive correlations presented above, between expenditures and the industrialization and integration dimensions for the American states. In contrast to the situation in federal systems, one might expect that, precisely because the central government in non-federal systems plays a dominant role in education and tends to reduce the internal variation in spending, the variation in spending that does exist in such systems is not constrained by the subnational resource base. Accordingly we hypothesize that:

> The greater the central government's financial responsibility for education, the lower the correlation between the variation in education spending across the subnational units and the variation in the social structural resource bases of the units.

These hypotheses serve as a preface to consideration of the impact of federalism on allocation of funds within a society. Although it is important to know to what extent, if any, federalism affects magnitude of intra-national variation in spending and the degree to which this spending is socioeconomically constrained, the heart of the impact question involves who benefits at whose expense in federal as opposed to non-federal systems. The final and perhaps most important problem with which we deal thus involves a specification of how educational spending varies in all systems. To what degree does federalism (or non-federalism) seem to result in an advantage, in terms of the cumulative spending of all levels of government, for industrial areas as opposed to non-industrial areas? Likewise, to what degree is educational spending higher in the more commercialized areas, the urban tertiary-dominant "centers' of a nation? Or do we find that federalism and/or non-federalism tends to effect a redistribution of funds to the non-industrial and non-commerical areas of a nation -- the areas which Rokkan, in his research on processes of Norwegian electoral mobilization, has rightly termed the two peripheries?[19] Or is one system of inter-governmental relations, e.g. non-federalism, so conducive to equalization that virtually no relative advantage is apparent in the distribution of total educational funds across the subnational jurisdictions of the nation? Answers to these questions depend to a large extent on whether non-federalism, and the centralization associated with this form of government, results in a system-wide equalization of the resource base of educational spending. It is plausible to argue that federalism, because it results in a socially constrained system of expenditure which is to a considerable extent a reflection of the disparities across the subnational units in resource

base, benefits both the industrial and commercial areas, but particularly the wealthiest areas.

In contrast to federalism, centralization of financial responsibility should work to the advantage of the areas with least resources-- the two peripheries. In other words, we expect to find that non-industrial areas as well as non-commercialized areas (characterized by the presence of linguistic, ethnic, racial and/or religious minorities) enjoy a relative advantage in the allocation of total education funds within the society. Since the politicization of education and the mobilization of the minorities in the non-commercialized areas of non-federal systems occurred simultaneously in the era of nation-building, and since wealth is closely related to commercialization in federal systems, if the U.S. is a valid model, it is likely that the dimension which traces these various attributes -- that labeled "integration" -- will have considerably more salience for educational spending that industrialization.

Therefore we hypothesize that:

> The greater the central government's financial responsibility for education, the greater the relative advantage enjoyed by non-industrial and non-integrated areas in terms of total expenditures on education.

The converse of this hypothesis, of course, is that the lower the central government's financial responsibility, the greater the relative advantage enjoyed by the most industrial and the most integrated areas of the nation.

Finally, a subordinate hypothesis to the preceding, and reliant upon the same data for testing, is that:

> The variation across subnational units of both federal and non-federal systems in educational spending is more closely associated with integration than with industrialization.

Findings

The first hypothesis suggests a positive relationship between the proportion of educational funds provided by the national government and the proportion of resources devoted to public education. In other words, it suggests that non-federal systems exert considerably more effort, defined as the degree of spending relative to the nation's resource base, than do federal systems. In order to test this proposition in a manner which is comparable to our subnational analyses, we have analyzed nation-level data for 16 European countries plus Canada and the United States. We have constructed two measures of two dimensions which trace the variation in aggregate levels of industrialization and commercialization across these nations.[20]

The two cross-national dimensions resemble in most ways the factors of industrialization and integration which we previously created for sub-

national units in several countries. (See Appendix I). The industrialization dimension contrasts, in the factor scores, nations such as the United Kingdom, Germany, and Belgium (which have a relatively high proportion of the work force in manufacturing) with nations such as Canada, Spain, and Ireland (which are, relative to the other nations, heavily agrarian). The commercialization dimension, comparable to integration, contrasts nations such as the United States, Canada, and Sweden (which have relatively large tertiary sectors and a high degree of affluence) with nations such as Spain, Italy, and Ireland (which are predominantly Catholic, relatively poor, and heavily agrarian).

These two dimensions trace important general attributes of social structure and, taken together, provide a complex yet parsimonious measure of the resource base within which national public policy making operates. That these two dimensions are indeed a resource base for educational policy is suggested by the fact that they explain over 80 percent of the variance among the nations in total educational expenditures per capita.[21] By taking the residuals of a regression of educational expenditures per capita on the two dimensions of cross-national variation, one can derive a measure of the extent to which the aggregate allocation of funds to education exceeds or lags behind what might be expected given a nation's level of industrialization, commercialization, and wealth.

Our first hypothesis suggests that these residuals should be positive for the non-federal systems and, in particular, should be negative for the four federal systems -- the United States, Canada, Switzerland, and Germany. In fact, as the data in Table 1 demonstrate, this hypothesis is clearly rejected. The correlation between the residual measure of educational effort and per cent of total educational revenue provided by the central government is highly negative (r=-.66). Not only is the hypothesis unsupported; it is strongly contradicted! The four federal systems, none of which obtained more than 10 percent of total educational funds from the central government, stand alone with residual scores exceeding 1 standard deviation.[22] In other words, contrary to what we hypothesized, it is abundantly clear that the federal systems show considerably more ability and willingness to exploit available resources for the support of public education.

As we suggested in the previous section, while questions of aggregate national magnitude are of obvious interest, the central questions in the debate over the impact of structures of inter-governmental relations and, in particular, the division of financial responsibilities across levels of government, involve patterns of allocation <u>within</u> the nation. Our second hypothesis, therefore, suggests that variation in educational spending across subnational units may be considerably less in non-federal systems, i.e. systems with a relatively high of central government funding, than in federal systems. In order to investigate this proposition we have analyzed data on total (central, subnational, and local) educational spending in the subnational units of the four federal systems included in Table 1. We have also obtained data on total educational spending of all levels of government in the subnational units of four non-federal systems. The four non-federal systems -- Norway, Sweden, the United Kingdom, and the Netherlands -- were chosen in part because they fall in the middle in terms of the central

governments' role. In fact, they are relatively close to the four federal systems on both variables in Table 1 and thus should provide a "harder" test of the propositions regarding system impact than would the inclusion of nations such as France and Ireland.[23]

Table I

Educational Spending Effort and Central Government Financing

	Spending Effort (Residual of Exp/cap on Industrialization and Commercialization Dimensions)	% of Total Educational Revenues from Central Government
United States	1.71	4
Fed. Rep. Germany	1.62	1
Switzerland	1.55	9
Canada	1.23	7
Norway	0.43	44
Sweden	0.02	57
United Kingdom	-0.27	65
Denmark	-0.30	67
Austria	-0.46	65
Netherlands	-0.49	73
Belgium	-0.53	74
Luxembourg	-0.56	75
Italy	-0.63	77
France	-1.03	90
Spain	-1.13	67
Ireland	-1.17	94

If our second hypothesis is valid, the non-federal systems should manifest considerably lower degrees of intra-national variation in educational expenditures per capita than the federal systems. In order to test this we have computed Coefficients of Relative Variation (standard deviation/mean) for total educational spending in the subnational units of the eight nations. The results, which appear in Table II, suggest that, although there are some exceptions to the rule (as in the low internal variation among the German Länder and the high variation among the Swedish län), centralization does seem to overcome or, more accurately, to moderate inter-regional disparities.[24] Conversely, decentralization seems to be associated with a relatively high degree of variation in spending within a nation. Thus, in contrast to the hypothesis regarding centralization and aggregate educational effort, the relationship suggested by our second hypothesis is confirmed.

Our third hypothesis states that centralization of financial responsibility for education affects the extent to which aggregate funds expended are constrained by the socioeconomic resource base of the subnational units. In other words, we have hypothesized that the greater the centralization of educational funding, the lower the correlation between subnational units' socioeconomic resources and the total funds expended in the units.

Table II

The Intra-National Variation in Educational Expenditures Per Capita, 1965-66

	Coefficient of Relative Variation
Non-Federal Systems	
Netherlands	5.8
England	7.4
Sweden	16.7
Norway	11.9
Federal Systems	
Switzerland	26.8
Canada	25.5
United States	17.9
Fed. Rep. of Germany	6.4

In order to test this hypothesis, it is necessary to develop measures of the socioeconomic resource base which are parsimonious and yet which also reflect the most important lines of social cleavage. The measures must be cross-nationally valid while still accommodating unique system-specific features associated with racial, religious, ethnic, and linguistic variations in the nations. In order to do this, we have utilized data for the subnational units of the eight nations to create dimensions of intra-national variation which are comparable to those we have developed, in another context, for five nations,[25] those Hofferbert created for the American states from 1890 to 1960,[26] and those reported here based on nation-level data for 16 countries in Europe and North America.

The two dimensions, developed with the same factor analytic techniques used in the 16-nation analysis, provide measures of industrialization and integration which appear quite cross-nationally equivalent. As the factor structures in Appendix II clearly indicate, scores based on one dimension trace the variation among the subnational units in the degree of industrialization and secondary sector development. The scores for the integration factor measure the degree of commercialization, tertiary sector development, and affluence plus the presence or absence of certain ethnic, racial, linguistic, or religious minorities which characterize the territorial peripheries of several of these nations. The factor scores for these dimensions provide measures of intra-national variation which seem intuitively plausible. For example, the industrialization dimension contrasts, in Canada, Quebec and Ontario with the Prairies while the integration dimension contrasts Quebec, Ontario, and British Columbia with the Maritimes. Or, to use another example, industrialization in the Netherlands contrasts the two southern provinces of Noord-Brabant and Limburg from the northeastern provinces of Groningen, Friesland, and Drenthe, while integration contrasts Noord-holland, Zuid-holland, and Utrecht from the rest of the nation. Likewise, the Norwegian dimension of industrialization contrasts the fylker of Ostfold, Oslo, Buskerud, Vestfold, and Telemark from the fishing-dominant areas of Nordland, Troms, and Finnmark in the north, just as the industrialization dimension in Sweden contrasts

Stockholms län, Södermanlands, Östergötlands, Älvsborgs, Örebro, and Vastmanlands, from the timber-dominant län of the north: Vasternorrlands, Jamtlands, Vasterbottens and Norrbottens. Similarly, the integration dimension contrasts the two Norwegian "centers" of Oslo and Bergen with the areas of Oppland, Hordaland, Søgn og Fjordane, and Nord Trøndelag -- areas which as Rokkan has shown, have been characterized by the defense of the region on the basis of linguistic, religious, and moral criteria. And in Sweden one also finds that the integration dimension differentiates center and periphery: It contrasts Stokholms stad and län, Uppsala, Malmöhus, and Göteborgs from the rest of the nation, particularly Götlands, Kronobergs, Kalmar, and Blekinge in the southeast, and Varmland, Skaraborgs, and Jamtlands in the west.

The factor scores for the dimensions of industrialization and integration allow us to measure in a parsimonious but comparable manner the variations within each nation in resource base. According to the third hypothesis, we expect that educational expenditures in federal systems should be much more bound by resource bases than spending in non-federal systems. A relatively simple way of testing this proposition, once one has appropriate measures, is to compare the Coefficients of Determination (R^2) of educational expenditures and the two social structural dimensions among the eight systems. If educational expenditures in the non-federal systems are in fact relatively unconstrained this should be manifest in a markedly lower R^2. This seems to be the message of Table III, for with the possible exception of the Netherlands (about which we will say more shortly), the non-federal systems have rather feeble Coefficients of Determination. In contrast, we find that the federal systems are characterized by a high degree of social structural constraint.

Table III

Coefficients of Determination for Intra-National Variations
In Educational Expenditures Per Capita, 1965-66
(% Variance explained by industrialization and integration)

	Coefficients of Determination
Non-Federal Systems	
Netherlands	52
England	9
Sweden	17
Norway	23
Federal Systems	
Switzerland	80
Canada	83
United States	58
Fed. Rep. Germany	70

Important as the differences between federal and non-federal systems are in the magnitude of effort, of intra-national variation, and of socio-economic constraint in educational spending, we have suggested that the critical question involves who benefits at whose expense in federal as opposed to non-federal systems. Our fourth hypothesis suggests that the patterns of relative advantage will systematically differ between federal and non-federal systems. We have hypothesized that a relative advantage, in terms of the total educational funds expended in an area, is enjoyed by the most industrial and, in particular, by the most integrated (and most affluent) areas in federal aystems. In contrast, we would expect to find that non-federal systems accomplish a degree of redistribution of resources on a system-wide basis. Accordingly, we expect to find that in non-federal systems a relative advantage in educational funding is enjoyed by the least industrialized and least integrated areas. Non-federal systems tend, in other words, to reallocate resources to the peripheries from the centers, while the policy output of federal systems tends to perpetuate regional disparities in socioeconomic resource base.

In order to test this hypothesis we have correlated the subnational units' industrialization and integration scores with the total educational expenditures per capita in each subnational unit. These correlations enable us to specify in what kind of areas of each nation the most is spent on education. Thus a comparison of these correlations between federal and non-federal systems provides a basis for determining the impact of governmental structure on redistribution and equalization. These correlations are presented in Table IV.

Table IV

Correlations of Industrialization and Integration with Total Educational Expenditures Per Capita, 1965-66

	Industrialization	Integration
Non-Federal Systems		
Netherlands	-.09	-.71
England	.17	-.23
Sweden	-.41	-.02
Norway	-.46	-.07
Federal Systems		
Switzerland	.22	.87
Canada	-.21	.87
United States	-.22	.73
Fed. Rep. Germany	-.18	.82

These data confirm our fourth hypothesis. One notes, for example, that all but one of the correlations for the non-federal systems are negative, indicating that relative advantage in the total funding of education is enjoyed by the non-industrial and non-integrated areas. In other words, the impact of centralization of financial responsibility for education apparently

carries with it a commitment to reduce the resource disparities within a nation by effecting a system-wide redistribution of funds. We also note, however, that the criteria by which non-federal systems carry out this redistribution may vary, perhaps as a function of differing definitions by nations' policy makers of the relevant peripheries. For example, both Sweden and Norway seem to manifest a pattern of redistribution to non-industrial areas, particularly those in the northern parts of each country. On the other hand, education expenditures correlate only slightly with the integration dimension in these nations, which might suggest that policy has equalized the impact of the variation traced by integration. In contrast, the two non-Scandinavian nations, England and the Netherlands, seem responsive to different criteria for equalization and redistribution. In these two nations, it is the correlation of industrialization and expenditures which is lowest, while the correlates for integration reveal a propensity to redistribute resources to the non-integrated areas.

There is, in the fact that the correlates of educational spending in Sweden and Norway differ from those in England and the Netherlands, a hint that the redistribution and equalization policies of non-federal nations may provide a means of differentiating patterns of national policy impact. While we are not prepared to suggest that one pattern is more or less progressive than another, it is interesting to note that even such crude data as used here suggest that nations tend to cluster together, in a patterned manner. While it has often been suggested that certain nations adopt policy programs by borrowing their neighbors' innovations, the equally interesting question of whether nations "borrow" the criteria by which public policy effects a redistribution or equalization of regional disparities in resource advantage has seldom if ever been addressed.

Our final hypothesis is confirmed only among the federal systems. We find a strong and uniform relationship between educational spending and integration (which, one notes in Appendix II, is closely associated with aggregate levels of wealth). The strength and uniformity of this relationship suggests that, in spite of the slight tendency of federal systems to allocate relatively more funds to non-industrial areas (contrary to our fourth hypothesis), federal systems' educational funding is almost a mirror reflection of the existing resource structure associated with integration. That is, variations in expenditures reflect variations in wealth, tertiary sector development, and commercialization. Once one controls for the effect of integration, relative degrees of industrialization are of virtually no consequence for educational spending in federal systems. The resources measured by integration have such a high degree of salience in a decentralized system that the overall redistributive or equalizing effect of educational policy between regions is minimal.

Summary and Conclusion

Drawing on the implications suggested by several recent studies in comparative urban research, we have examined the extent to which the structure of intergovernmental relations, particularly in regard to the division of financial responsibility, affects the pattern of allocation of public funds

within a nation. This investigation has focused on the arena of educational policy and has attempted to determine whether differing degrees of centralization, and in particular, whether the federal/non-federal distinction, seem to affect the outcomes of the policy process.

Five hypotheses were tested with nation-level data for 16 countries in Europe and North America and, in more detail, with subnational data for four federal and four non-federal systems. These hypotheses suggested that: 1) non-federal, and thus relatively centralized, nations exhibit a greater commitment of resources to education as reflected in the aggregate amount of funds spent in the nation; 2) that non-federal systems tend to equalize regional disparities in educational spending within a nation; 3) that, as a result, educational spending in non-federal systems is less socioeconomically constrained than in federal systems; 4) that non-federal, and thus relatively centralized systems, tend to effect an aggregate allocation of funds that compensates for specific disparities in socioeconomic resource base, and, in particular, that such systems tend to redistribute funds from the affluent, industrialized, and commercialized "centers" of a nation to the poor, non-industrialized, and non-commercialized "peripheries," and 5) that tertiary development and "integration" is more salient as a resource for educational policy than is industrialization. The first hypothesis was very clearly rejected, while the remaining four have been largely confirmed by our data and analyses.

The analyses suggest that the structure of intergovernmental relations does indeed significantly affect the patterns of allocation of educational funds within a nation. In particular, we found that there does exist a systematic difference between the federal and the non-federal systems in policy performance. The degree of intra-national variation in educational spending across the subnational units of a nation is considerably less in non-federal systems. As a corollary, educational spending in non-federal systems exhibits a considerably lower degree of socioeconomic constraint. And, as expected, patterns of allocation differ between federal and non-federal systems. In federal systems, the total allocation of funds spent in a unit mirrors the resource base of the unit. The commercialized and, in particular, the most affluent areas of a federal system manifest considerably higher spending levels than the non-commercialized and relatively poor areas. Thus, there is little indication that federal systems either equalize or redistribute the aggregate resources of society in this the largest arena of domestic policy. As a result, federalism seems to perpetuate the regional disparities, particularly those involving wealth, which characterize any nation. In contrast, non-federal systems seem to effect a redistribution of resources to poorer areas, although there is no consistent pattern in all non-federal systems. Instead, there seem to be distinct patterns of redistribution in the Scandinavian and non-Scandinavian nations which might suggest a process of regional exchange and diffusion of the criteria of equalization and redistribution.

While it seems true that the dominant role of the central government in a non-federal system may reduce the magnitude of intra-national variation of education expenditures, the degree to which they are socioeconomically constrained, and, in addition, result in equalization and redistribution, it

is nevertheless true that the aggregate allocation of funds to education, relative to resource base, is highest in the federal nations. This finding -- certainly the one least expected -- suggests that as educational policy makers consider whether to centralize or decentralize financial responsibility may face a trade-off between equity of distribution and aggregate effort. The decentralization of a federal system, although it does not equalize or redistribute social resources, at least in this policy arena, may nevertheless insure a level of spending considerably greater than would occur if financial responsibility were removed from the localities and the subnational units to the central government.

Footnotes

1. On the concept of federalism see Kenneth C. Wheare, Federal Government, 4th edition, (New York: Oxford University Press, 1964); Valerie Earle, ed., Federalism: Infinite Variety in Theory and Practice, (Itasca, Ill.: F. E. Peacock, 1964); Robert R. Bowie and Carl J. Friedrich, ed., Studies in Federalism, (Boston: Little, Brown & Co., 1954); Arthur W. Macmahon, ed., Federalism: Mature and Emergent, (Garden City: Doubleday, 1955); Ivo D. Duchacek, Comparative Federalism: The Territorial Dimension of Politics, (New York: Holt, Rinehart and Winston, Inc., 1970); and William H. Riker, Federalism: Origins, Operations, Significance, (Boston: Little, Brown & Co., 1964). We might note that there is in all this literature remarkably little concern for how federalism as a system of government affects public policy; instead, the dominant concern has been the definition, bases of origin, and institutional framework of federalism.

2. See Stein Rokkan, "Nation-Building, Cleavage Formation and the Structuring of Mass Politics," in Citizens Elections Parties, (New York: David McKay, 1970), 72-144.

3. See Christopher Jencks et al, Inequality: A Reassessment of the Effect of Family and Schooling in America, (New York: Basic Books, 1972).

4. We say irrelevant because we believe that: 1) the reputed inconsequentiality of educational spending for achievement rates has not been adequately tested. Coleman, Moynihan, and others make the classic mistake of drawing longitudinal causal inferences from cross-sectional data (i.e. test scores for different school grades at one point in time), and there is on the other hand considerable evidence as cited by Levin in Roe L. Johns et al, Economic Factors Affecting the Financing of Education, (Gainsville: National Educational Finance Project, 1970) that spending does affect achievement; 2) in any event, education is a major area of spending which is unlikely to diminish, regardless what academics think of its impact, and for this reason alone is worth studying.

5. See for example, the various reports of the Fleischmann Commission (Albany, 1972) which advocated among other things that the state assume the full burden for educational funding from the localities by instituting a state-wide property tax. This trend has emerged in other federal systems as well. For example, in Canada the proportion of revenues deriving from the province rose between 1960 and 1967 from 32 to 98 percent in New Brunswick, from 44 to 75 percent in Manitoba, and from 31 to 54 percent in Quebec.

6. Richard E. Dawson and James A. Robinson, "Inter-Party Competition, Economic Variables, and Welfare Policies in the American States," Journal of Politics, XXV (May, 1963), 265-289.

7. Thomas R. Dye, Politics, Economics and the Public: Policy Outcomes in the American States, (Chicago: Rand McNally, 1966).

8. See Richard I. Hofferbert, "The Relation Between Public Policy and Some Structural and Environmental Variables in the American States," American Political Science Review, LX (March, 1966), 73-82.

9. See Richard I. Hofferbert, "Socioeconomic Dimensions of the American States: 1890-1960," Midwest Journal of Political Science, XII (August, 1968), 401-418.

10. See, for a full elaboration in a context of cross-national research, David R. Cameron, J. Stephen Hendricks, and Richard I. Hofferbert, "Urbanization, Social Structure, and Mass Politics: A Comparison Within Five Nations," Comparative Political Studies, IV (October, 1972), 259-290.

11. See Ira Sharkansky and Richard I. Hofferbert, "Dimensions of State Politics, Economics, and Public Policy," American Political Science Review, LXIII (September, 1969), 867-879.

12. Jack L. Walker, "The Diffusion of Innovation Among the American States," American Political Science Review, LXIII (September, 1969), 880-899.

13. Andrew T. Cowart, "Anti-Poverty Expenditure in the American States: A Comparative Analysis," Midwest Journal of Political Science, XIII (May, 1969), 219-236.

14. Ira Sharkansky, "Economic and Political Correlates of State Government Expenditures: General Tendencies and Deviant Cases," Midwest Journal of Political Science, XI (May, 1967), 173-192; and Sharkansky, The Routines of Policy, (New York: Van Nostrand, 1970).

15. See Mark Kesselman, "Research Perspectives in Comparative Local Politics," Comparative Urban Research, I (Spring, 1972) 10-30.

16. A portion of this research is reported in Thomas Anton and Oliver P. Williams, "On Comparing Urban Political Systems: Residential Allocations in London and Stockholm," paper delivered at the 1971 Annual Meeting of the American Political Science Association, Chicago, September, 1971.

17. See The International Studies of Values in Politics, Values and the Active Community, (New York: Free Press, 1971), particularly ch. 10.

18. The logic of explaining differences in within-nation relationships across a set of nations by the use of systemic attributes is developed by Adam Przeworski and Henry Teune, The Logic of Comparative Social Inquiry, (New York: John Wiley, 1970).

19. See Stein Rokkan, "Geography, Religion, and Social Class: Cross-Cutting Cleavages in Norwegian Politics," in S. M. Lipset and Rokkan, ed., Party Systems and Voter Alignments, (New York: Free Press, 1967, 367-444.

20. All the nation-level data are for the year 1965. The data were obtained from Charles P. Taylor and Michael Hudson, ed., World Handbook of Political and Social Indicators, (New Haven: Yale University Press, 1972). The dimensions were produced by a principle components factor analysis with a Kaiser varimax orthogonal rotation.

21. The correlation of industrialization and total expenditures per capita is r=.17. The correlation between commercialization and education expenditures is r=.88. R=.90 and R^2=.81.

22. It is interesting to note the appearance of four clusters in the residuals presented in Table I. In addition to the four federal systems, one finds the next group of four composed of three Scandinavian nations plus the U.K., and the next group of four is composed of the four smaller democracies of continental Europe. The lowest educational effort, relative to resource base, occurs in nations which are, perhaps not coincidentally, heavily Catholic.

23. We have used data on expenditures per capita, 1966 for all nations except Sweden and the Netherlands where 1965 data are used. We wish to express our gratitude to several individuals who supplied subnational data: M. F. Stonefrost of the Institute of Municipal Treasurers and Accountants in England, Terje Sande of the University of Bergen, Margareta Askeland of the Statistiska Centralbyrån in Sweden, J.Ch.W. Verstege of the Centraal Bureau voor de Statistiek in the Netherlands, Andrew J. Milnor of the University of Kentucky, and J. Stephen Hendricks of the University of Michigan.

    The subnational units are as follows: 48 American states, 10 German lander, 10 Canadian provinces, 25 Swiss cantons, 20 Norwegian fylker, 25 Swedish lan, 11 Dutch provinces, and 45 English geographic counties.

24. In this and the remaining tables, the eight nations are arrayed by the relative size of central government financial responsibility for education, as described in Table I. We might note, in regard to Table II, that when expenditures per pupil rather than per capita are used, the German measure variation falls into line with that for the other federal systems: CRV = 15.6.

25. See Cameron et al, op.cit. particularly 263-269.

26. See Hofferbert, "Socioeconomic Dimensions..." Complete data sources and factor scores for all eight countries are available, upon request, from the authors.

Appendix I

Factor Structures for Dimensions of Industrialization and Commercialization for 16 Nations

Industrialization		Commercialization	
% labor force in manufacturing	.90	% labor force in professions	.94
density	.69	energy consumption/capita	.91
newspapers circulation/000 pop.	.66	gross national product/capita	.90
domestic mail/000 pop.	.34	higher education students/000 pop.	.87
% pop. in cities over 100,000	.30	telephones/000 pop.	.84
gross national product/capita	.26	televisions/000 pop.	.81
televisions/000 pop.	.23	domestic mail/000 pop.	.81
population increase, 1960-1965	.23	ethnic-linguistic fractionalization	.54
energy consumption/capita	.16	population increase, 1960-1965	.53
telephones/000 pop.	.14	% pop. in cities over 100,000	.41
% labor force in professions	.08	newspapers circulation/000 pop.	.30
ethnic-linguistic frationalization	-.06	% labor force in manufacturing	.03
higher education students/000 pop.	-.24	density	-.34
% Catholic	-.39	% labor force in agriculture	-.46
% labor force in agriculture	-.78	% Catholic	-.48

Appendix II

Factor Structures for Dimensions of Industrialization and Integration: Four Non-Federal and Four Federal Nations

Netherlands

Industrialization		Integration	
% economically active in manufacturing '60	.89	% economically active, commerce and finance	.96
% pop. Catholic '60	.84	doctors/000 pop.	.85
employees/firm, manufacturing'60	.74	density	.84
net migration/000 pop. '58, 1958-71	.67	%pop., no religion	.71
average family income, '62	.62	university students/000 pop.	.70
% pop. in municipalities over 20,000, '62	.61	% pop. in municipalities over 20,000	.63
density, '62	.44	average family income	.59
university students/000 pop.. '71	.09	% pop., Protestant	.01
doctors/000 pop., '62	.02	average size of farms	-.08
% economically active in commerce and finance, '60	-.17	net migration, '58-71	-.08
% pop., scattered (verspreide) '60	-.39	employees/firm, manufacturing	-.29
% pop., no religion, '60	-.39	% pop., Catholic	-.[illegible]
% economically active in agriculture, '60	-.77	% economically active, manufacturing	-.47
% pop., Protestant, '60	-.85	% economically active, agriculture	-.60
average size of farms, 1959	-.86	% pop., scattered (verspreide)	-.70

England

Industrialization		Integration	
% active pop. in manufacturing, '61	.90	% pop., university educated	.82
% active pop., skilled workers, '61	.79	% active pop., employees	.64
income/capita, '61	.55	% active pop., self-employed	.62
% active pop., employees, '61	.36	income/capita	53
televisions/000 pop., '61	.16	% active pop., own-account workers	.52
% active pop. in utilities and transportation, '61	.11	annual natural pop. increase '51-61	.07
% farms over 1,000 acres, '64	.05	% active pop. in utilities and transportation	.06
annual natural pop. increase, '51-61	-.07	% active pop. in manufacturing	-.07
% pop., university educated, '61	-.28	televisions/000 pop.	-.23
% pop., born in Britain, '61	-.28	% active pop., agriculture workers	-.26
% active pop., own-account workers, '61	-.41	% active pop. in agriculture	-.28
% increase pop. via migration '51-61	-.45	% farms over 1,000 acres	-.28
% active pop., self-employed, '61	-.60	% active pop., skilled workers	-.[illegible]
% active pop., agricultural workers, '61	-.71	% increase pop. via migration	-.37
% active pop. in agriculture, '61	-.77	% pop., born in Britain	-.39

Sweden

Industrialization

% economically active in manufacturing, '65	.89
% economically active in secondary sector, '65	.88
% pop. 65, foreign immigrants, '61-69	.68
net migration/000 pop., 65, '61-70	.65
% pop. in localities over 10,000, '65	.23
personal income/family, '65	.11
% pop., attending Church, '64	-.02
% economically active in commerce, '65	-.08
value of forest lands & forests/ capita, '66	-.17
% pop. 15-19 in gymnasier, '67	-.31
% pop. in sparsely populated areas, '65	-.43
% economically active in mining, '65	-.45
% economically active in agriculture and forestry, '65	-.45
% arable farm land, wholly owned, '66	-.52
% farms under 10 hectares, '66	-.65

Integration

% economically active in commerce	.96
personal income/family	.95
% pop. in localities over 10,000	.93
% pop. 15-19 in gymnasier	.71
% pop., foreign immigrants	.56
net migration	.37
% economically active in mining	-.06
% farms under 10 hectares	-.06
% economically active in manufacturing	-.17
% economically active in secondary sector	-.21
% farm land, wholly owned	-.44
% pop. attending Church	-.58
value of forests & forest lands/ capita	-.69
% economically active in agriculture and forestry	-.79
% pop. in sparsely populated areas	-.83

Norway

Industrialization

% economically active in manufacturing, '60	.84
% manufacturing employees in firms over 6, '60	.76
employees/manufacturing firm, '69	.72
personal income/taxpayer, '60	.63
% men 20-24 finished secondary education, '60	.62
% pop. in densely populated areas over 2,000, '60	.53
doctors/000 pop., '60	.38
% economically active in commerce, '60	.32
% pop. members teetotalers organizations, '60	.07
% primary pupils in schools using Nynorsk, '60	.04
% economically active in agriculture and forestry, '60	-.21
% pop. church goers, '56	-.37
% pop in sparsely populated communes, '65	-.52
% pop. in fishing-dominated sparsely populated communes, '65	-.84
% economically active in fishing, '60	-.87

Integration

% economically active in commerce	.82
% pop. in densely populated communes over 2,000	.80
doctors/000 pop.	.76
income/taxpayer	.72
% men 20-24 finished secondary education	.61
% manufacturing employees in firms over 6	.47
employees/manufacturing firm	.44
% economically active in manufacturing	.16
% economically active in fishing	-.01
% pop. in fishing dominated sparsely populated communes	-.08
% primary pupils in schools using Nynorsk	-.77
% pop. in teetotalers organization	-.79
% pop. Church goers	-.79
% pop. in sparsely populated communes	-.81
% economically active in agriculture and forestry	-.87

Switzerland

Industrialization

% pop. in industry & trades, '60	.96
% pop. factory workers, '60	.94
workers/factory, '60	.69
% taxpayers earning over 20,000 Fr., '60	.21
% pop. in towns over 10,000, '60	.19
density, '60	.00
% pop. in commerce & finance, '60	-.08
certificats de maturita/000 pop., '64	-.10
doctors/000 pop., '61	-.22
% pop. Italian speakers, '60	-.23
% farms under 10 hectares, '55	-.24
% pop. French speakers, '60	-.35
% pop. Catholics, '60	-.50
% pop. in agriculture, '60	-.50
% pop. born in same canton, '60	-.66

Integration

% pop. in commerce & finance	.94
% taxpayers earning over 20,000 Fr.	.92
% pop. in towns over 10,000	.91
doctors/000 pop.	.90
certificats de maturite/000 pop.	.66
density	.60
% pop. French speakers	.45
% pop. Italian speakers	.10
% pop. factory workers	.08
workers/factory	.06
% pop. in industry and trades	.03
% farms under 10 hectares	-.46
% pop. born in same canton	-.53
% pop. Catholics	-.54
% pop. in agriculture	-.77

Canada

Industrialization

% labor force over 15, workers & laborers, '61	.91
% labor force over 15, manufacturing, '61	.79
% pop. Catholic, '61	.73
% pop. French (mother language), '61	.69
% labor force over 15, finance and insurance, '61	.16
% labor force over 15, university graduates, '61	.13
% pop. in cities over 20,000, '60	.00
average income/household, '61	-.10
% labor force over 15, agriculture, '61	-.79
average acres of farm, '60	-.84

Integration

average income/household	.97
% labor force over 15, university graduates	.94
% labor force over 15, finance & insurance	.94
% pop. in cities over 20,000	.89
% labor force over 15, manufacturing	.56
average acres/farm	.33
% labor force over 15, workers & laborers	.28
% pop. French speaking	.11
% labor force in agriculture	-.15
% pop. Catholic	-.20

United States

Industrialization

% pop. in manufacturing, '60	.92
value added/capita, manufacturing, '60	.90
employees/manufacturing establishment, '60	.78
density, '60	.72
% pop. in urban areas over 50,000, '60	.47
telephones/000 pop., '60	.43
personal income/capita, '60	.35
% pop. black, '60	.21
% pop. illiterate, '60	.16
% farm products under $10,000, '60	.05
retail sales/capita, '60	-.08
value real property/capita, '60	-.12
% farms operated by tenants, '60	-.22
median education/capita	-.24
average value of farms, '60	-.41
state & local employees/000 pop., '60	-.58
average acreage of farms, '60	-.63
motor vehicles/000 pop.	-.73
rural road mileage/capita	-.84

Integration

median education/capita	.88
personal income/capita	.88
telephones/000 pop.	.84
value of real property/capita	.77
retail sales/capita	.67
% pop. in urban areas over 50,000	.66
state & local employees/000 pop.	.61
motor vehicles/000 pop.	.52
average value of farms	.51
average acreage of farms	.33
value added/capita manufacturing	.27
density	.27
% pop. manufacturing	.15
rural road mileage/capita	.11
employees/manufacturing establishment	-.15
% farms operated by tenants	-.50
% farm products under $10,000	-.67
% pop. black	-.71
% pop. illiterate	-.71

Germany

Industrialization

% economically active in manufacturing, '61	.89
% economically active, workers, '61	.88
workers/manufacturing firm, '61	.84
% Catholic, '61	.66
% economically active, civil servants and white collar employees, '61	.06
% pop. in communities over 10,000	-.03
gross domestic product/capita	-.11
% economically active in primary sector, '61	-.30
% economically active in banking, finance and public administration, '61	-.36
% gross domestic product from agriculture, '60	-.46
doctors/000 pop., '61	-.49
% pop. refugees, '61	-.66

Integration

% pop. in communities over 10,000	.97
gross domestic product/capita	.93
% economically active in finance	.90
% economically active civil servants and white collar employees	.86
doctors/000 pop.	.70
workers/manufacturing firm	.49
% economically active, workers	-.09
% pop. refugees	-.17
% economically active in manufacturing	-.23
% pop. Catholic	-.56
% economically active in agriculture	-.84
% economically active in primary sector	-.91

Abstract

THE IMPACT OF FEDERALISM ON EDUCATIONAL SPENDING: PATTERNS WITHIN AND ACROSS NATIONS

By

David R. Cameron and Richard I. Hofferbert

Drawing on the implications suggested by several recent studies in comparative urban research this paper examines the extent to which the structure of intergovernmental relations, particularly in regard to the division of financial responsibility, affects the pattern of allocation of public funds within a nation. This investigation has focused on the arena of educational policy and has attempted to determine whether differing degrees of centralization, and in particular, whether the federal/non-federal distinction, seems to affect the outcomes of the policy process.

Five hypotheses were tested with nation-level data for 16 countries in Europe and North America and, in more detail, with subnational data for four federal and four non-federal systems. These hypotheses suggested that: 1) non-federal, and thus relatively centralized, nations exhibit a greater commitment of resources to education as reflected in the aggregate amount of funds spent in the nation; 2) that non-federal systems tend to equalize regional disparities in educational spending within a nation; 3) that, as a result, educational spending in non-federal systems is less socioeconomically constrained than in federal systems; 4) that non-federal, and thus relatively less centralized systems, tend to affect an aggregate allocation of funds that compensates for specific disparities in socioeconomic resource base, and, in particular that such systems tend to redistribute funds from the affluent, industrialized, and commercialized "centers" of a nation to the poor, non-industrialized, and non-commercialized "peripheries," and 5) tertiary developments and "integration" is more salient as a resource for educational policy than is industrialization.

The first hypotheses was very clearly rejected, while the remaining four have been largely confirmed by the data and analyses in this paper.

While it seems true that the dominant role of the central government in a non-federal system will reduce the magnitude of intra-national variation of educational expenditures, the degree to which they are socioeconomically constrained, and, in addition, result in equalization and redistribution, it is nevertheless true that the aggregate allocation of funds to education relative to resource base, is highest in federal nations. This finding--certainly the one least expected--suggests that as educational policy makers consider whether to centralize or decentralize financial responsibility they may face a trade-off of equity for distribution and aggregate effort. The decentralization of a federal system, although it does not equalize or redistribute social resources, as in this policy arena, may nevertheless insure a level of spending considerably greater than would occur if financial responsibility were removed from the localities and the subnational to the central government.